

Teacher Focused Tech:

Technology-Rich Instruction, Blended Learning & Personalized Learning

Ashley Ireland Dann

iDEAL Institute, Loyola Marymount University

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The education landscape is flush with words like technology-rich, blended learning, and personalized learning. Educators, universities, ed-tech companies, and stakeholders alike wear these words like proverbial badges as they describe (or hawk) what they believe are the structures and methods necessary to meet the needs of 21<sup>st</sup> century learners. But what do these words really mean? Do the definitions differ drastically, and are the differences truly important or just pedantic exercises? The following will work to authentically define technology-rich, blended learning, and personalized learning within the context of teaching. My aim is to provide a more comprehensive and teacher-focused lens in which to view our modern tech-rich, blended, and personalized education world.

#### **Technology-rich Instruction**

Defining technology-rich instruction is innately subjective. I define tech-rich instruction as “an instructional model that is *well* enhanced, supported, and/or supplemented by use of technologies, devices, or software.” In certain low-tech environments, instruction that enables students to use classroom devices to create PowerPoint presentations and present them via projector may be considered a technology-rich lesson. In other circumstances, the technology-rich descriptor may only apply to lessons that drastically modify or redefine the way students learn: using augmented reality to teach content, allowing students to pursue virtual field trips via Oculus Rift (or other devices), or when students authentically interact with devices and software in problem-based-learning activities as adults might in a particular industry. The broad,

instructionally focused definition I employ allows for simpler differentiation between tech-rich instruction and the definitions of blended and personalized learning. It also allows for environments such as one that is tech-rich and blended to coexist and not be mutually exclusive.

What is evident from the definition of technology-rich instruction, and from the examples supplied above, is that this type of instruction frequently emphasizes devices, technologies, or software. One might picture a technology-rich environment as one that is 1:1 and/or BYOD (bring your own device) in which students interact, create, collaborate, and contribute most often through and with a device. These types of environments often look modern and rigorous, and may result in “oohs and ahhs” from various stakeholders, but impact on student achievement is inconsistent.

Although these device-heavy environments may look impressive to some, what is known about device-focused instruction and reform is that it is flawed. According to Cuban (2001), after the initial excitement fades, new technologies historically do not change teacher practice. However, when the technology itself leads to a change in instruction or class climate, positive outcomes occur (Watson, Mong & Harris, 2011). Thus, it is vital to put less emphasis on device and software fluency and focus more on improving teachers’ instructional practice. It is also true that new technology is rarely well integrated into the curriculum, and teachers are rarely trained well enough in it (Oppenheimer, 2003). Additionally, when teachers feel more prepared and trained in the technology, they are more likely to integrate it into their instructional practice (Irby, 2017). These findings point to the importance of adequate and effective targeted teacher professional learning. Professional learning should focus on pedagogical practices, but also allow ample time and space for teachers to collaborate, learn, and become more fluent with technologies.

Akin to concern about technology classroom implementation, it is important to remember that not all tech-rich environments are created equal. Some popular technologies, such as the case of gamification in Hanus & Fox (2015) and ‘Second Life’ in Cheal (2009) have been found to have negative outcomes on student achievement and engagement. Subsequently, adopted technologies should be based in best practices and evaluated and selected by talented educators. Use of an identified technology should be strategic and intentional as opposed to just ‘cool’ or seemingly engaging. Although the definition of technology-rich instruction remains subjective and very broad, the decisions around how tech-rich instruction is implemented should be clear, purposeful, and pedagogically focused.

### **Blended Learning**

Where technology-rich instruction has a broad definition, the more common definition of blended learning has been too narrowly defined and too universally accepted. Arguably the most popular definition of blended learning was created by the Christensen Institute; their definition of blended learning is

“a formal education program in which a student learns:

1. at least in part through online learning, with some element of student control over time, place, path, and/or pace;
2. at least in part in a supervised brick-and-mortar location away from home;
3. and the modalities along each student’s learning path within a course or subject are connected to provide an integrated learning experience.” (Horn & Staker, pp. 34-36).

This definition places focus only on the current abilities of technology without consideration to how tech may change and develop. For example, blended learning may not always contain elements that can be considered “online learning.” As technologies enhance and develop, some programs that are offline may have similar capabilities as those that are currently online. I would venture to say that some of the online learning researched and discussed in *Blended*, such as early iterations of Khan Academy, were less adaptive and responsive than some of today’s offline apps for students.

Along with issues focused on the inevitable development of technology, there are problems with the pedagogy eluded to in the definition as well. It is fairly easy to come up with scenarios, lessons, and instructional activities that should be clear examples of blended learning, but are not 100% online. For example, a 1<sup>st</sup> grade class taking part in a prototypical station rotation lesson, where at one station students are receiving teacher-led small group, differentiated instruction, another station students are working in a small group solving real-world problems collaboratively (provided with differing scaffolds based on their needs), and at another station students are working on devices through an engaging offline app (perhaps one that offers students choice in path or format and pace of completion). This lesson fundamentally looks like blended learning and contains elements that seamlessly blend in-person and technology enhanced instruction. However, because the technology being used is not online, this example does not meet the Christensen definition. It is due to examples like this that those in education should not prescribe (nor hold sacred) a stagnate descriptive definition.

As the definition is questioned, so should the discourse. Where the current dialogue on blended learning places much power and trust in the abilities of an online learning program to teach students, we should instead be focusing our energies on the teacher. In *Blended: Using*

*Disruptive Innovation to Improve Schools*, Horn & Staker describe the technology utilized in blended learning as the only way a student in an average sized 30:1 classroom could receive something close to 1:1 tutoring. The notion here is headed in the right direction. Blended learning can be very beneficial to students, but it is not solely because of the technology. The model is beneficial due to what it enables the teacher to do. Blended learning provides the teacher the time and space needed to better differentiate instruction, enable authentic student collaboration, and arms teachers with abundant data to inform and guide their instructional decisions.

The definition of- and discourse around- blended learning should alternately focus on instruction. I define blended learning as a group of instructional models that utilize a *blend* of face-to-face instruction and technology to engage, enhance, and extend students' learning. Along these pedagogically-focused lines, the U.S. Department of Education (2010) found that blended environments are often combined with additional instructional elements. Blended learning often means additional learning time and changes to teachers' instructional practice. Blended learning environments are often coupled with research proven components like small-group instruction, collaborative learning, and differentiated instruction. As it may be the instructional elements that lead to the performance increases found in blended environments, it is on those elements that we should focus and where our definition should stem.

### **Personalized Learning**

My definition of personalized learning is an instructional model that utilizes multiple data measures in order to differentiate instruction and the student learning experience at the individual level. Personalized learning is by no means new, and by no means is it a phrase or model owned

by those in education technology. Teachers have authentically personalized instruction in their classrooms for decades. One could visit any Montessori classroom and see masterful personalized learning going on by students as young as three—students rigorously working at their own level and progressing at their own pace, conferencing with the teacher when necessary, and moving ahead on their own when ready—all without any technology present. Similarly, any teacher who has interacted with an IEP or a 504 plan has been legally obligated to personalize learning, and doing so for the rest of their class is simply best practice. Personalizing learning, meeting students’ individual needs, is simply best practice in instruction.

Personalized learning however, has been given new meaning in the age of adaptive and assignable software. When personalized learning is discussed now, it is often tied heavily (or completely) to the use of a purchased online program and the personalization of learning relies exclusively on the software’s ability to adapt and meet students’ needs. I have worked with many teachers and leaders who describe their classrooms and schools as personalized, but when further examined, the instruction within these schools and classrooms is traditional; the only “personalized” element present is adaptive software. I applaud the idea of software that meets students where they are and helps to fill in gaps or allows them to move beyond the prescribed grade-level curriculum. However, although I spend a great deal of my time interacting with educational software, I have yet to identify any program that can truly accomplish this. And, even if I did find a software truly capable of personalization, I would not rely on it, nor should our teachers, leaders, or any of our systems. If a classroom’s only element of personalization is a software program, the instruction is not personalized. Personalization of instruction will always be in the hands of the teacher.

In order to be considered personalized learning, the teacher must utilize multiple data sources (quantitative, qualitative, formative, summative and anecdotal) to guide their instruction. There must also be formal systems for data tracking, data-based student-teacher meetings, and data-based goal setting. The software being utilized must utilize multiple data measures as well. Ideally, the software program utilizes diagnostic assessments in conjunction with student learning preferences and learning profile. The best programs have the artificial intelligence to learn about students based on their interactions with the program. It would adapt to students' timing, their learning preferences, and learning styles and subsequently adapt to meet their needs. Outside the technology and data-focused instruction, teachers must also engage students in learning with a universal design in mind, considering individual readiness levels, preferences, and learner profiles and allowing students to demonstrate mastery in a variety of ways.

## **Conclusion**

In my own work at the iDEAL (Innovation in Digital Education and Leadership) Institute at Loyola Marymount University, we keep the teacher and instruction at the forefront. Whether our focus is on implementing technology-rich instruction, bringing in blended learning, or on executing personalized learning, our emphasis is always on the soundness of the instruction. At the technology integration level, we focus on getting teachers fluent with devices, networks, programs, and technology evaluation tools (such as SAMR and Triple E), so that they are best prepared to evaluate new technology and make informed instructional decisions in their classrooms. When implementing blended learning at a school, the institute focuses on teachers' mindsets, effective environmental elements, making curricular connections, and pedagogical practice. The technology is secondary. And when bringing teachers and schools into personalized



learning, our focus is on the effective tracking and utilization of multi-measure student data to drive instruction and student learning. We at iDEAL recognize the ever-enhancing and changing technology landscape and we know that educational programs will continue to improve, but we also know that regardless of the technology, the teacher will always be the most important decision maker in the room.

Radio was supposed to radicalize the education landscape, then it was television, then the iPad; regardless of the tool, “faith in electronic pedagogy has returned again and again” (Tyak & Cuban, 1995). No single device, nor single tech-enhanced model of instruction, nor highly capable software will ever supplant the teacher and their expertise. It is because of this that our focus, our definitions, our energies, our decisions must always remain on those individuals repeatedly proven to create the biggest impact on the lives and achievement of our students. Our focus must remain on the teacher.

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